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The Misinterpretation of the Patent Exhaustion Doctrine and the Transgenic Seed Industry in Light of Quanta v. LG Electronics

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THE MISINTERPRETATION OF THE PATENT EXHAUSTION DOCTRINE AND THE TRANSGENIC SEED INDUSTRY IN LIGHT OF *QUANTA V. LG ELECTRONICS*

Tod Michael Leaven [1]

The Supreme Court's recent interpretation of the patent exhaustion doctrine mandates that the transgenic seed industry use contract law instead of patent law to enforce post-sale restrictions. Prior to Quanta Computer, Inc. v. LG Electronics, Inc., *the federal district courts and the Federal Circuit held that patent exhaustion was not triggered if a sale was restricted and that post-sale restrictions are enforceable under federal patent law. In* Quanta, *the Court held that all authorized sales trigger patent exhaustion regardless of restrictions and that post-sale restrictions are not enforceable under patent law. Although* Quanta *is a case about computer components, the Court's decision affects the transgenic seed industry. Both the computer industry and the transgenic seed industry relied heavily upon the same pre-*Quanta *federal case law for interpretation of the patent exhaustion doctrine. This broad holding removes uniform federal remedies under patent law for violating post-sale restrictions, and the seed industry must now rely on a patchwork of state contract law to enforce post-sale restrictions.*

I. INTRODUCTION

On June 9, 2008, the Supreme Court of the United States unanimously clarified the patent exhaustion doctrine[2] in *Quanta Computer, Inc. v. LG Electronics, Inc.*[3] The patent exhaustion

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[2] The patent exhaustion doctrine states that an authorized sale of a patented article "exhausts the monopoly in that article and the patentee may not thereafter, by virtue of his patent, control the use or disposition of the article." United States v. Univis Lens Co., 316 U.S. 241, 250 (1942) (citing Bloomer v. McQuewan, 55 U.S. (1 How.) 539, 549–50 (1853)).

[3] 128 S. Ct. 2109 (2008).

doctrine sets the threshold for when a patent is considered exhausted, meaning the patentee or a licensed agent can no longer exert control over the patented item and the purchaser of the item may use it in any manner without any threat of committing patent infringement.[4] In *Quanta*, the Court held that the initial *authorized*[5] sale of a patented item terminates all of the patent rights to that item.[6] The Court claimed that its holding simply reaffirmed the interpretation it has held since the Nineteenth Century.[7] The decision firmly disavows the federal district courts' and the Federal Circuit's misinterpretation that only an *unrestricted*[8] sale could exhaust the patentee's rights over an item.[9]

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[4] *Id.* at 2115.

[5] In *Quanta*, the term "authorized sale" can be defined as a sale where the seller does not violate terms or conditions at the time of the sale. *See id.* at 2122 (stating that exhaustion turns on Intel's license to sell and not on Quanta's decision to obey contractual restrictions). Whether or not the buyer is in any violation of any provisions, or intends to violate any provision, has no effect on whether the sale is authorized. *See id.*

[6] *Id.*

[7] *Id.* at 2113. Though the Supreme Court said they were simply reaffirming their past holdings, the Court has stated that triggering patent exhaustion has been conditioned upon an *unconditional* sale as opposed to an *authorized* sale since *Bloomer v. McQuewan*, 55 U.S. (1 How.) 539 (1853), the first time the Court addressed patent exhaustion. *See* Motion Picture Patents Co. v. Universal Film Mfg. Co., 243 U.S. 502, 516 (1917) ("[T]he right to vend is exhausted by a single, unconditional sale, the article sold being thereby carried outside the monopoly of the patent law and rendered free of every restriction which the vendor may attempt to put upon it."). Regardless of this history, the Court now holds that it is an authorized sale. *Quanta*, 128 S. Ct. at 2113.

[8] A "restricted sale" can be defined as any sale that includes conditions or requirements which must be met by the purchaser. *See* Monsanto Co. v. Scruggs, 459 F.3d 1328, 1333 (Fed. Cir. 2006) (describing a sale that limits farmers' use of the seed they purchased to only a single commercial crop as restricted). It is possible for a restricted sale to be authorized.

[9] *See, e.g.*, *Monsanto*, 459 F.3d at 1328 (holding that a restricted sale does not trigger patent exhaustion and that restrictions are within the patent grant); B. Braun Medical, Inc. v. Abbott Lab., 124 F.3d 1419 (Fed. Cir. 1997) (holding that the exhaustion doctrine does not apply to an expressly conditioned sale and that such conditions are subject to patent law); Mallinckrodt, Inc. v. Medipart, Inc., 976 F.2d 700, 709 (Fed. Cir. 1992) (holding that patent exhaustion is not triggered by a conditioned sale and that "violation of the restriction may be remedied by action for patent infringement."). *Quanta*'s holding that patent

Although *Quanta* involved computer components, the ramifications naturally extend to any industry that relies upon the lower courts' misinterpretation of patent exhaustion.[10] The Court issued its decision despite warnings from the transgenic seed[11] industry that such a broad holding could have serious adverse consequences on its industry.[12] The Court also noted that the

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exhaustion applies even when a sale is restricted is echoed in a treatise that states that "[w]here the sale of a product is authorized and the exhaustion doctrine applies, an express reservation of rights communicated to the buyer will not defeat its application." MATTHEW BENDER & CO., INC., LEXISNEXIS GROUP, 1–2 MILGRIM ON LICENSING § 2.30 (2008).

[10] *Quanta Computer, Inc. v. LG Electronics, Inc.* reversed *LG Electronics, Inc. v. Bizcom Electronics, Inc.*, 453 F.3d 1364 (Fed. Cir. 2006). *Bizcom*, which held that only an unrestricted sale triggers exhaustion, traced its interpretation of the patent exhaustion doctrine to both *B. Braun Medical v. Abbott Lab.*, 124 F.3d 1419 (Fed. Cir. 1997), and *Mallinckrodt, Inc. v. Medipart, Inc.*, 976 F.2d 700 (Fed. Cir. 1992). *Bizcom*, 453 F.3d at 1370. *B. Braun* traced its interpretation to *Mallinckrodt*. *B. Braun*, 124 F.3d at 1426. The major transgenic seed cases also traced their interpretation of patent exhaustion to either *B. Braun* or *Mallinkrodt*, or both. *Scruggs*, 459 F.3d at 1336, 1338; Monsanto Co. v. McFarling, 363 F.3d 1336, 1341–42 (Fed. Cir. 2004) ("*McFarling II*"); Monsanto Co. v. McFarling, 302 F.3d 1291, 1298–99 (Fed. Cir. 2002) ("*McFarling I*). The American Seed Trade Association wrote an amicus curiae brief in *Quanta* that singled out *Mallinkrodt* as the pillar of transgenic seed interpretation of patent exhaustion. Brief Amicus Curiae of The American Seed Trade Association in Support of Neither Party at 2–3, *Quanta*, 128 S. Ct. 2109 (No. 06-937) [hereinafter Seed Brief] ("If this Court were to reject *Mallinckrodt* and broadly hold that conditional sales run afoul of the patent exhaustion/ first sale doctrine, its ruling could have serious and perhaps unintended adverse consequences.").

[11] A transgenic seed is produced when a genetic sequence is artificially introduced into a naturally occurring seed to create a particular trait. Mycogen Plant Science, Inc. v. Monsanto Co., 61 F. Supp. 2d 199, 207–09 (D. Del. 1999), *aff'd*, 243 F.3d 1316 (Fed. Cir. 2001). Transgenic seeds are also commonly referred to as genetically modified, or GM, seeds. *See* Felicia Wu & William P. Butz, The Future of Genetically Modified Crops: Lessons from the Green Revolution, at 43 (Rand, 2004), *available at* http://www.rand.org/pubs/monographs/2004/RAND_MG161.pdf.

[12] Seed Brief, *supra* note 10, at 3. The Supreme Court was aware of the implications this decision would have on the seed industry. During oral arguments, Justice Kennedy asked, "Are there cases where some downstream restrictions on use might be necessary to prevent the patent from becoming worthless, i.e., in the biological area for replication of seeds in agriculture and so

patentee will have to rely upon contract law instead of patent law to enforce any post-sale restrictions.[13] The result of the Court's decision is that members of the transgenic seed industry can no longer avoid patent exhaustion by using complex licensing and sales restrictions, a practice upon which they have come to rely.[14] Losing uniform patent law remedies[15] for enforcement of post-sale restrictions will force the industry to restructure its sales model to rely on contract law.[16] Contract law is controlled at the state level and is subject to state majoritarian pressure, which, in agricultural states, might favor farmers over big seed corporations.[17] With the growing importance of the transgenic seed industry,[18] this shift to contract law could translate into higher food and energy costs as well as delay several benefits that transgenic crops provide.[19]

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forth?" Transcript of Oral Argument at 15–16, *Quanta*, 128 S. Ct. 2109 (No. 06-937).

[13] *Quanta*, 128 S. Ct. at 2121 n.7.

[14] *See Scruggs*, 459 F.3d at 1335–36; *McFarling II*, 363 F.3d at 1342–43; *McFarling I*, 302 F.3d at 1298–99.

[15] "In contrast to the limited protections offered by contract law remedies, patent law allows the inventor of a self-replicating patented crop product to pursue remedies (including injunctive relief) against anyone who threatens to make or sell the product in competition with the patentee." Brief for Croplife International as Amicus Curiae Supporting Neither Party at 13, *Quanta*, 128 S. Ct. 2109 (No. 06-937) (citing 35 U.S.C. §§ 281, 283–85) [hereinafter Croplife Brief]. Unlike contract law, patent law "provides for treble damages in cases of willful infringement." Seed Brief, *supra* note 10, at 21 n.33 (citing 35 U.S.C. § 284 and *Dowling v. United States*, 473 U.S. 207, 227 n.19 (1985)).

[16] "Consigning patentees, particularly small biotech companies, to the vagaries of 50 States' contract laws will deny the biotech industry the stability and consistency that the federal government itself has acknowledged is critical to the industry's survival and continued growth." Brief of the BioTechnology Industry Organization as Amicus Curiae in Support of Neither Party at 31, *Quanta*, 128 S. Ct. 2109 (No. 06-937) (citing Federal Trade Commission, *To Promote Innovation: The Proper Balance of Competition and Patent Law and Policy* (Oct. 2003)) [hereinafter Biotech Brief]. Though this recent development focuses on the transgenic seed industry, *Quanta* affects all industries that have relied upon the Federal Circuit's interpretation of the exhaustion doctrine.

[17] *See* David. R. Moeller, State legislative activity of GMOs, 21 Agric. L. Update 1, 4 (2003), *available at* http://www.nationalaglawcenter.org/assets/aala/12-03.pdf.

[18] Wu & Butz, *supra* note 11, at xv–xxiv.

[19] *See* Seed Brief, *supra* note 10, at 16.

In a world with global climate change, increased carbon emissions, drought, poverty, and malnutrition, the transgenic seed and the bioengineered crop it produces is the *deus ex machina*, which translates to "god from the machine."[20] Crops can be engineered to resist insects, drought, diseases, herbicides, salinity, and cold temperatures, and they can be grown in ways that decrease wind erosion and water erosion.[21] It is also possible to increase nutrition and health benefits[22] as well as crop production.[23] Crops can also be engineered to more easily and efficiently convert into biofuels and bioenergy.[24] Engineered crops

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[20] "God from the machine" refers to a mechanism in Greek plays where an unwinnable situation or unconquerable foe is conquered by a god who is literally lifted unto the stage via a machine or crane. The expression is often used when the god is either artificial or implausible. Thomas G. Chondros, *"Deus-ex-Machina" Reconstruction and Dynamics*, *in* RECONSTRUCTION AND DYNAMICS INTERNATIONAL SYMPOSIUM ON HISTORY OF MACHINES AND MECHANISMS: PROCEEDINGS HMM2004 87, 87 (2004).

[21] Croplife Brief, *supra* note 15, at 5–6

[22] *Id.* at 6–7 (citation omitted). Discussing the increased nutrition and health benefits of transgenic seeds as follows:

> [H]undreds of thousands of children in developing countries suffer from blindness caused by Vitamin A deficiency, and more than one billion women suffer from iron deficiency anemia, because traditional food sources such as rice do not supply enough of these nutrients. But with the support of CropLife member Syngenta, scientists have developed "Golden Rice" that is bioengineered to produce iron and beta carotene (which is converted to Vitamin A by the body). One study estimates that the health and welfare benefits of Golden Rice varieties in the Philippines alone could exceed $100 million. Other scientists are developing bioengineered plant varieties that contain increased amounts of healthy antioxidants and omega-3 fatty acids, decreased amounts of harmful saturated fats, and even vaccines to prevent cervical cancer.

Id.

[23] *Id.* at 5 (describing health benefits and increased crop production).

[24] *See* Targeted Growth, Inc., http://targetedgrowth.com (last visited Nov. 5, 2008) (on file with the North Carolina Journal of Law & Technology). Targeted Growth is a biotech company which heralds itself as "a crop biotechnology company focused on developing products with enhanced yield and improved quality for the agriculture and energy industries." *Id.* The ability to convert crops into biofuels and bioenergy more easily is discussed at http://targetedgrowth.com/pages/Technologies/Core-Technologies (last visited Nov. 5, 2008) (on file with the North Carolina Journal of Law & Technology).

can also encompass vaccines against cholera and hepatitis B.[25] In the United States, farmers grow genetically modified varieties of corn, canola, cotton, papaya, squash, and soybeans.[26] In 2005, bioengineering had increased crop production by 8.3 billion pounds.[27] At the same time, bioengineering also reduced both costs by $1.4 billion and pesticide use by 69 million pounds.[28] In discussing the seed industry's reliance upon the lower federal courts' case law, Croplife International, "a global federation representing the plant science industry and a network of regional and national associations in 91 countries,"[29] explains:

> [Transgenic seed patentees] commercialize such products using limited licenses that allow growers to raise and sell one generation of crops, but not to save and replant the resulting crops to make subsequent generations of the patented product. [Seed patentees] rely upon settled case law holding that the patent exhaustion doctrine does not invalidate such license limitations.[30]

Part II of this recent development describes the transgenic seed industry and how the federal district courts and the Federal Circuit applied the patent exhaustion doctrine to the industry. Then the seed industry will be compared to a strikingly similar case involving licensing and patent exhaustion in the computer industry.[31] This comparison is important for two reasons. First, the computer patent exhaustion case *LG Electronics, Inc. v. Bizcom Electronics, Inc.*,[32] relies upon the same district and circuit court precedent as do the transgenic seed cases. Second, *Quanta* reversed *Bizcom* due to the lower courts' misinterpretation of the patent exhaustion doctrine. Part III of this recent development analyzes the impact that the exhaustion doctrine will have upon the transgenic seed industry after *Quanta* overruled the lower courts'

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[25] Wu & Butz, *supra* note 11, at xix.
[26] Croplife Brief, *supra* note 15, at 4.
[27] *Id.* at 5–6.
[28] *Id.*
[29] Croplife International, http://www.croplife.org (last visited November 2, 2008) (on file with the North Carolina Journal of Law and Technology).
[30] Croplife Brief, *supra* note 15, at 2.
[31] LG Electronics, Inc. v. Bizcom Electronics, Inc., 453 F.3d 1364 (Fed. Cir., 2006), *rev'd*, *Quanta*, 128 S. Ct. 2109 (2008).
[32] *Id.*

interpretation. Finally, Part IV of this recent development briefly examines how the Supreme Court's decision requires reliance upon contract law instead of patent law.[33]

II. CASE LAW BEFORE *QUANTA*

A. *Transgenic Seed Industry*

The sales and contracting model used by the transgenic seed industry is based upon years of seemingly settled federal case law. Seed patentees own patents for numerous biotechnologies and license these biotechnologies to seed companies.[34] The seed companies are licensed to manufacture[35] and sell seeds incorporating the patented technologies to farmers on the condition that the seed companies "place a notice on all bags of [transgenic] seeds stating that the seeds are covered by U.S. Patents, that the purchase of the seeds conveys no license, and that a license from [the seed patentee] must be obtained before using the seeds."[36] The license between the seed patentee and the farmer regulates the first-generation seed[37] by requiring the farmer to only use the seeds for one commercial crop season.[38] The license further regulates

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[33] The availability of contract law was only noted in *Quanta*, 128 S. Ct. at 2122 n.7, but it is explicitly spelled out in Bloomer v. McQuewan, 55 U.S. (1 How.) 539, 549–50 (1853).

[34] *See, e.g.,* Monsanto Co. v. Scruggs, 459 F.3d 1328, 1333 (Fed. Cir. 2004).

[35] Manufacturing usually consists of introducing the patented genetic material into an unpatented seed's genetic code. Wu & Butz, *supra* note 11, at 40.

[36] *Scruggs*, 459 F.3d at 1336. This notice upon a bag of seeds has been referred to as a seedwrap license, even though it purports to carry no license itself. *See* Ryan Crawford, *Did I Save My Seed for This? United States Intellectual Property Law, the Continuing Shift in Protection from Growers to Developers, and Some Potential Implications for Agriculture*, SYRACUSE SCI. & TECH. L. REP. Spring 2006, http://justice.syr.edu/sstlr/wp-content/uploads/did-i-save-my-seeds-for-this.pdf, at 2, (on file with the North Carolina Journal of Law & Technology).

[37] The seeds initially purchased by the farmers from the seed companies are known in the industry as first-generation seeds. The plants grown from the first-generation seeds produce a new generation of seed known as second-generation seeds.

[38] *Scruggs*, 459 F.3d at 1332.

the second-generation seed[39] by stating that the farmer must commercially sell all of the second-generation seed and cannot save any second-generation seed for either personal consumption or replanting.[40] Seed patentees utilize this contractual procedure for securing the continuance of their patent rights post-sale.[41]

When farmers violate these restrictions by saving and planting second-generation seeds, seed patentees protect their interests by bringing patent infringement suits against the farmers.[42] In defending such suits, farmers assert, applying the patent exhaustion doctrine, that the seed patentees cannot exert control over the seeds because the seeds were sold outright, moved out from under the patent monopoly, and belong entirely to the farmers.[43] In response, seed patentees generally rely upon three major arguments under patent law to enforce the restrictions against using second-generation seeds: (1) in order for a sale to trigger patent exhaustion, it must be an unrestricted sale and the licensing requirements for purchasing seed make these sales restricted;[44] (2) the rights of seed patentees are severable and the seed patentees are only conveying certain rights and not others;[45] and (3) patent

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[39] *See supra* notes 36 and 37.

[40] *Id.*

[41] Croplife Brief, *supra* note 15, at 2. Although it is a *contractual* procedure, the contracts are being enforced with patent law alongside of contract law. *Id.*

[42] *See, e.g., Scruggs*, 459 F.3d at 1328.

[43] *See, e.g., id.* at 1335–36.

[44] When farmers argue that they are entitled to use the seeds in an unencumbered fashion under the doctrine of patent exhaustion, the district and circuit courts have held patent exhaustion inapplicable because the sale was restricted. *See e.g., id.* The federal courts relied upon *Mallinckrodt*, which held that "violation of the [post-sale] restriction may be remedied by action for patent infringement." Mallinckrodt v. Medipart, 976 F.2d 700, 709 (Fed. Cir. 1992).

[45] Citing the Supreme Court, the district and circuit courts held that the patentees may sever their patent interests and convey them piecemeal because "[t]he right to make, the right to sell, and the right to use may be granted or conferred separately by the patentee." Brulotte v. Thys Co., 379 U.S. 29, 31 (1964) (citing Adams v. Burke, 84 U.S. 453, 455 (1873)) (quotations omitted). The lower federal courts held that this severability means the patentee can convey the right to use the first-generation seeds, but not the right to make new seeds. *See* Monsanto Co. v. McFarling, 302 F.3d 1291, 1299 (Fed. Cir. 2002) (holding that "[t]he price paid by the purchaser reflects only the value of the 'use' rights conferred by the patentee."); Jazz Photo Corp. v. Int'l Trade

exhaustion only applies to first-generation seeds and not the second generation.[46] Due to the reliance on the lower courts' misinterpretation of patent exhaustion, the transgenic seed cases are analogous to *Bizcom*, which involves computer component patents.

B. *LG Electronics, Inc. v. Bizcom Electronics, Inc.*

In *Bizcom,* a computer industry case with sales and licensing arrangements strikingly similar to those in the transgenic seed industry, the sales and contracting model used was also based upon the same seemingly settled federal case law. LG Electronics, Inc. ("LG") owned patents for numerous technologies relating to personal computers and licensed the technologies to Intel, Inc. ("Intel"). [47] Intel is licensed to manufacture microprocessors and chipsets incorporating the patented technologies and sell them to Quanta Computers, Inc. ("Quanta") and other companies on the condition that they give written notice that the purchase of the patented items conveys no license, that Quanta does not have a license to combine an Intel product with any non-Intel product, and that Quanta further has to obtain a license from LG. [48] LG utilizes this contractual procedure to secure the continuance of its patent rights post-sale.[49]

Comm'n, 264 F.3d 1094, 1102 (Fed. Cir. 2001) (stating that "the ownership of a patented article does not include the right to make a substantially new article.").

[46] *See, e.g.*, *McFarling*, 302 F.3d at 1299. Some courts have held that even if patent exhaustion applied, it would only apply to first-generation seeds and not to second-generation seeds because "[w]ithout the actual sale of the second generation seed to [the farmer], there can be no patent exhaustion" regarding the second generation of seeds. *Scruggs*, 459 F.3d at 1336.

[47] LG Electronics, Inc. v. Bizcom Electronics, Inc., 453 F.3d 1364, 1368 (Fed. Cir. 2006), *cert. granted*, 128 S. Ct. 28 (2007).

[48] Quanta Computer, Inc., v. LG Electronics, Inc., 128 S. Ct. 2109, 2114 (2008).

[49] *See* Brief for Plaintiff-Appellant LG Electronics, Inc. at 2, *LG Electronics, Inc. v. Bizcom Electronics, Inc.*, 453 F.3d 1364 (Fed. Cir. 2006) (No. 05-1261) [hereinafter Plaintiff's Brief] (explaining how the licensing arrangement is designed to toll patent exhaustion). As with the transgenic seed cases, patent law is utilized to enforce the *contractual* arrangements. *Id.*

When Quanta violated this restriction by purchasing the patented items and combining them with non-Intel components,[50] LG sued Quanta for patent infringement.[51] The Federal Circuit relied upon three arguments to reverse the district court's order and sustain LG's restrictions under patent law: (1) only unrestricted sales trigger patent exhaustion,[52] (2) LG's rights are severable and LG did not convey all of its rights,[53] and (3) patent exhaustion only applies to the physical items and not to the method of combining those items with other components.[54]

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[50] There was an express restriction against combining the patented components made by Intel with non-Intel components. *Id.* at 8–18.

[51] LG Electronics, Inc. v. Asustek Computer, Inc., 2002 U.S. Dist. LEXIS 25956 (N.D. Cal. 2002); *see also* LG Electronics, Inc. v. Bizcom Electronics, (No. C 01-1375 CW, C 01-1594 CW, C 01-2187 CW, C 01-1552 CW) 2004 U.S. Dist. LEXIS 29906 (N.D. Cal. Nov. 30, 2004).

[52] The court held the exhaustion doctrine "does not apply to an expressly conditional sale or license." *Bizcom*, 453 F.3d at 1370. The Federal Circuit has also held that violations of post-sale restrictions may be remedied by an action for patent infringement. B. Braun Medical Inc. v. Abbott Laboratories, 124 F.3d 1419, 1426 (Fed. Cir. 1997) (citing Mallinckrodt, Inc. v. Medipart, Inc., 976 F.2d 700, 709 (Fed. Cir. 1992)).

[53] By holding that LG conveyed only the right for certain uses and not for others, the court upheld its precedent of patent right severability. The court determined LG could convey the right to purchase the microprocessors and chipsets and use them in a specified manner but could not convey the right to combine them with non-Intel components. *See Bizcom*, 453 F.3d at 1370 (stating that the sale of an item does not exhaust the patentee's rights for other claims associated with the item).

[54] *Bizcom*, 453 F.3d at 1369. This argument was sustained by the district court and affirmed by the Federal Circuit. The court further held that even if patent exhaustion were to apply, it would only apply to the actual microprocessors and not to the method patents. *Id.* The district court held that the doctrine of patent exhaustion only applies to apparatus or composition-of-matter claims that describe operations to make or use a product. *Id.* at 1368–69. The Federal Circuit affirmed this decision in that it also held that patent exhaustion does not apply to method patents. *Id.* at 1367–70. The decision was based on *Glass Equip. Dev., Inc. v. Besten, Inc.*, 174 F.3d 1337, 1342 n.1 (Fed. Cir. 1999) (citing Bandag, Inc., v. Al Bolser's Tire Stores, Inc., 750 F.2d 903, 924 (Fed. Cir. 1984)). *Bizcom*, 453 F.3d at 1370. *Bandag* held that a method patent cannot be exhausted by the sale of an item because the method patent "claims of the [patentee] are directed to a method [of use] and cannot read on the equipment." *Bandag*, 750 F.2d at 924 (quotations omitted).

C. *Similarities between the Seed Industry and* Bizcom

The immediate similarities between the licensing and sales restrictions and how they are used to avoid patent exhaustion in both the transgenic seed industry and the computer industry stem from their mutual reliance on the same federal case law.[55] One of the most prominent transgenic seed cases cites *Bizcom* for the court's interpretation of the patent exhaustion doctrine.[56] Evidence of these two industries' reliance on the lower federal courts' interpretation of the doctrine is evident in how contracts and sales models are structured in both industries. At the top of the contracting schemes lie the patent owning entities (LG and seed patentees such as Monsanto).[57] These entities license different vendors (Intel and seed companies) to manufacture and sell items containing their patented elements.[58] The vendors are required by contract to inform the purchasers (Quanta and the farmers) that the vendors themselves do not convey a license to the purchasers to use the patented products and that the purchasers must seek a license with the patentees requiring additional royalties.[59] In both industries, purchasers enter into a license agreement with the patentees post-sale, and, most importantly, both patentees rely on patent law to enforce the terms of the post-sale licensing agreements.[60]

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[55] In both the transgenic seed cases and *Bizcom*, the courts rely upon *B. Braun* and *Mallinckrodt* in defining the patent exhaustion doctrine. *See generally Bizcom*, 453 F.3d 1364; *see, e.g.,* Monsanto Co. v. Scruggs, 459 F.3d 1328, 1336 (Fed. Cir. 2004).

[56] *Scruggs*, 459 F.3d at 1336.

[57] *See id.* at 1333; *Bizcom*, 453 F.3d at 1368.

[58] *See Scruggs*, 459 F.3d at 1333; *Bizcom*, 453 F.3d at 1368.

[59] *See Scruggs*, 459 F.3d at 1333, 1335 (stating that a seed grower is required to inform the farmer that he must sign a license agreement with the seed patentee); Plaintiff's Brief, *supra* note 49, at 22–23 ("Intel notified them that they could not obtain that license simply by buying Intel components" and "[t]hey knew in advance that purchasing Intel components was just their first step—that they would need a license from LGE to use the components in infringing computers made for the U.S. market.").

[60] *Scruggs*, 459 F.3d at 1336; Plaintiff's Brief, *supra* note 49, at 23.

III. *QUANTA COMPUTER, INC. V. LG ELECTRONICS, INC.*, AND BEYOND

A. *General*

In *Quanta Computer, Inc. v. LG Electronics, Inc.*,[61] the Supreme Court unanimously held that the initial *authorized* sale of an item discharges all of the patent rights over that item.[62] According to the current Supreme Court interpretation of the patent exhaustion doctrine: (1) a patentee cannot bring a patent infringement suit against a purchaser for violating a post-sale restriction;[63] (2) when a patented item is sold, the patentee receives compensation and thus loses all rights to that item, while the purchaser gains the right to use the item to its fullest extent;[64] (3) patent exhaustion is triggered by an *authorized* sale, not an *unrestricted* sale;[65] (4) a patent monopoly has separate severable rights, some trigger exhaustion and some do not;[66] and (5) if a particular patent, such as a method patent, embodies the use of an article, the sale of the article automatically exhausts the patent, even if the patent itself was never sold.[67]

B. *Post-Sale Restrictions*

Quanta specifically addressed the Court's previous dismissal of a patent holder's suit alleging that a licensee violated post-sale restrictions and then reaffirmed this dismissal.[68] *Quanta* also cited

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[61] 128 S. Ct. 2109 (2008).

[62] Quanta Computer, Inc. v. LG Electronics,Inc., 128 S. Ct. 2109, 2115 (2008).

[63] *Id.*

[64] Adams v. Burke, 84 U.S. 453, 455–56 (1873).

[65] *Quanta*, 128 S. Ct. at 2121 (citing United States v. Univis Lens Co., 316 U.S. 241, 249 (1942)).

[66] Bloomer v. McQuewan, 55 U.S. (1 How.) 539, 549 (1853) (discussing the differences between "make and vend" and "use" rights and how conferring "make and vend" rights is usually a license that does not trigger patent exhaustion but conferring "use" rights is usually a sale that does trigger patent exhaustion).

[67] *Quanta*, 128 S. Ct. at 2113.

[68] *Id.* at 2115 (citing *Adams*, 84 U.S. at 455) ("[T]he Court affirmed the dismissal of a patent holder's suit alleging that a licensee had violated postsale restrictions . . . .").

Henry v. A. B. Dick Co.,[69] the only case where a post-sale restriction was held valid under patent law, which had since been overruled.[70] *Henry* held that any reasonable stipulation that was not "inherently violative" of a law was enforceable.[71] The only requirement in *Henry* was that the purchaser must have had notice that the purchase was made with only a "qualified right of use."[72] *Henry* further stated that the stipulation can be upheld through contract law as well as patent law.[73] Ironically, although this language was overruled more than ninety years ago, this is the same reasoning used by the lower court in *Bizcom*.[74] *Monsanto Co. v. McFarling*,[75] a recent transgenic seed case, also used this reasoning.[76] The American Seed Trade Industry relied upon this same reasoning in its argument in support of protecting transgenic seed patents from the exhaustion doctrine in an amicus curiae brief it filed in *Quanta*.[77] In specifically mentioning *Henry* and its overruling, the Court held post-sale restrictions are not to be enforced by patent law.[78]

The result of the holding in *Quanta* means that LG loses its ability to use patent law to remedy Quanta's violation of the post-

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[69] 224 U.S. 1 (1912).

[70] *Quanta*, 128 S. Ct. at 2115–16. The A. B. Dick Company sold a patented machine with an attached license stipulating that the machine could be used only with supplies made by the A. B. Dick Company. *Henry*, 224 U.S. at 11. *Henry* was explicitly overruled in *Motion Picture Patents Co. v. Universal Film Mfg. Co.*, 243 U.S. 502, 518 (1917).

[71] *Henry*, 224 U.S. at 31.

[72] *Id.* at 26.

[73] *Id.* at 31.

[74] LG Electronics, Inc. v. Bizcom Electronics, Inc., 453 F.3d 1364, 1370 (2006).

[75] 302 F.3d 1291 (2002).

[76] *Id.* at 1298 ("[U]se of a patented product in violation of a valid restriction may be remedied under the patent law." (citing Mallinckrodt, Inc. v. Medipart, Inc., 976 F.2d 700, 701 (Fed. Cir. 1992)) (quotations omitted)).

[77] *See* Seed Brief, *supra* note 10, at 17 ("[T]he rule is, with few exceptions, that any conditions which are not in their very nature illegal with regard to th[e] kind of property [at issue], imposed by the patentee and agreed to by the licensee . . . will be upheld by the courts." (citing E. Bement & Sons v. National Harrow Co., 186 U.S. 70, 91 (1902))).

[78] Quanta Computer, Inc. v. LG Electronics, Inc., 128 S. Ct. 2109, 2115–16 (2008).

sale restrictions on its patented components.[79] For the transgenic seed industry, this means seed patentees can no longer rely upon patent law to seek redress for a farmer's violation of the post-sale restrictions placed upon its patented seeds.[80] In *Quanta*, the Court stated that "the primary purpose of our patent laws is not the creation of private fortunes for the owners of patents but is 'to promote the progress of science and useful arts.'"[81] This statement in *Quanta* signals the Court's intent to view the Patent Clause of the Constitution[82] as erring on the side of utilitarianism, thus hoping to enrich the collective knowledge of society[83] instead of simply promoting the natural rights of the inventor.[84]

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[79] *Quanta*, 128 S. Ct. at 2122 (describing LG's License Agreement as a post-sale restriction).

[80] *See* Croplife Brief, *supra* note 15, at 2–3 (describing seed patentee's license agreements as post-sale restrictions).

[81] *Quanta*, 128 S. Ct. at 2116 (citing Motion Picture Patents Co. v. Universal Film Mfg. Co., 243 U.S. 502, 509 (1917)).

[82] U.S. CONST. art. I, § 8 ("The Congress shall have Power . . . To promote the Progress of useful Arts . . . by securing for limited Times to . . . Inventors the exclusive Right to their . . . Discoveries.").

[83] For an argument favoring the granting of patent monopolies for the betterment of society, *see* Rebecca S. Eisenberg, *Patents and the Progress of Science: Exclusive Rights and Experimental Use*, 56 U. CHI. L. REV. 1017, 1024–28 (1989). Thomas Jefferson, founding father and the first patent administrator, supported utilitarianism over natural rights in his letter to Isaac McPherson:

> It has been pretended by some . . . that inventors have a natural and exclusive right to their inventions . . . . If nature has made any one thing less susceptible than all others of exclusive property, it is the action of the thinking power called an idea . . . . Its peculiar character, too, is that no one possesses the less, because every other possesses the whole of it. He who receives an idea from me, receives instruction himself without lessening mine; as he who lights his taper at mine, receives light without darkening me. That ideas should freely spread from one to another over the globe, for the moral and mutual instruction of man, and improvement of his condition, seems to have been peculiarly and benevolently designed by nature . . . . Inventions then cannot, in nature, be a subject of property. Society may give an exclusive right to the profits arising from them, as an encouragement to men to pursue ideas which may produce utility, but this may or may not be done, according to the will and convenience of society, without claim or complaint from anybody.

C. *Full Use*

Quanta cited several cases which held that the sale of a patented item by the patentee or an authorized agent gives the patentee his consideration, or financial gain, and the patentee thus parts with the right to restrict the use of the patented item.[85] The Court further held that the patented item carries with it the right to use the item "to the full extent to which it can be used."[86] In *Quanta,* the patented item's full extent of use includes combining the patented items with non-Intel components.[87] The value of the patented components is in their use,[88] and Intel was authorized to sell the patented components;[89] therefore, LG parted with the right to restrict the patented component's use under patent law.

Likewise, in the transgenic seed cases, the seed's full extent of use includes not only selling the crop, but also replanting the seeds.[90] The value of the patented seeds is in their use,[91] and the seed companies are authorized by the patentees to sell the seeds;[92] therefore, the seed patentees part with their right to restrict the seed's use under patent law.

Michael R. Taylor & Jerry Cayford, *American Patent Policy, Biotechnology, and African Agriculture: The Case for Policy Change*, 17 HARV. J.L. & TECH. 321, 338–39 (2004) (citing Thomas Jefferson's letter to Isaac McPherson). Letter from Thomas Jefferson to Isaac McPherson (on file with the North Carolina Journal of Law & Technology), *available at* http://etext.virginia.edu/etcbin/toccer-new2?id=JefLett.sgm&images=images/modeng&data=/texts/english/modeng/parsed&tag=public&part=218&division=div1.

[84] For an argument favoring the natural rights of the inventor, see A. Samuel Oddi, *Un-Unified Economic Theories of Patents—The Not-Quite-Holy Grail*, 71 NOTRE DAME L. REV. 267, 273–74 (1996).

[85] *Quanta*, 128 S. Ct. at 2115 (citing Adams v. Burke, 84 U.S. 453, 456 (1873)).

[86] *Burke*, 84 U.S. at 455.

[87] *Quanta*, 128 S. Ct. at 2114.

[88] *See id.* at 2120. There is no other use for the patented items except for combining them with other components, and this is the source of their value. *Id.*

[89] *Id.* at 2114.

[90] *See* Monsanto Co. v. McFarling, 363 F.3d 1336, 1342 (Fed. Cir. 2004) (describing how, after planting the first-generation seed and producing a harvest, both selling and replanting of the harvest are practical uses).

[91] *See id.* (agreeing that the use of agricultural transgenic seeds is to plant them so that they grow into mature plants).

[92] *See, e.g.*, Monsanto Co. v. McFarling, 302 F.3d 1291, 1293 (2002).

D. *Authorized, not Unrestricted, Sale*

Quanta proclaimed that the Supreme Court has continuously held that patent exhaustion is triggered by an *authorized* sale.[93] Disavowing the interpretation by the lower courts, *Quanta* held that as long as a sale is authorized, the fact that it is restricted has no bearing upon patent exhaustion.[94]

LG argued that the sale to Quanta was not authorized because Intel was unable to convey to Quanta what they both knew Intel was not authorized to sell, e.g., the right to practice the patents with non-Intel parts.[95] The district court and Federal Circuit agreed with LG's argument.[96] The Supreme Court, however, held that this argument was faulty because Intel's authority to sell the products was not conditioned upon Quanta's decision to act in accordance with LG's directions in the written notice.[97] The Court held that Intel's sale to Quanta was authorized, the sale took its products outside the scope of the patent monopoly, and LG could no longer assert its restrictions against Quanta by way of patent law.[98]

Regarding the transgenic seed industry, the Federal Circuit has held that a sale to a farmer was not authorized because the seed distributors lacked the authority to convey a right that both parties knew could not be conveyed.[99] As with Intel, the seed company's authority to sell its products containing the Monsanto patents is not conditioned on the farmer's decision to abide by Monsanto's directions.[100] The seed company's sales to the farmers are authorized[101] and the sales to the farmers should take the seeds

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[93] *Quanta*, 128 S. Ct. at 2121 (citing United States v. Univis Lens Co., 316 U.S. 241, 249 (1942)).

[94] *See id.*

[95] *Id.*

[96] LG Electronics, Inc. v. Bizcom Electronics, Inc., 453 F.3d 1364, 1370 (2006).

[97] *Quanta*, 128 S. Ct. at 2122.

[98] *Id.*

[99] Monsanto Co. v. Scruggs, 459 F.3d 1328, 1336 (Fed. Cir. 2004), *cert. denied*, 127 S. Ct. 2062 (2007).

[100] *See id.*

[101] Monsanto Co. v. McFarling, 302 F.3d 1291, 1293 (2002).

outside the scope of the patent monopoly; as a result, the patentee can no longer assert its patent rights against the farmers.

Some lower courts continue to interpret this portion of the patent exhaustion doctrine incorrectly, even though this interpretation was overruled by the Supreme Court.[102] Other courts have embraced *Quanta*.[103] At least one legal scholar has observed, "*Quanta* does not prevent a patentee from enforcing its rights when a manufacturing licensee sells articles in violation of express restrictions in its licensing agreement. Such sales would not be authorized sales."[104] The importance here is placed on whether the licensee is in violation of restrictions upon sales, not whether the purchaser fails to adhere to post-sale restrictions.[105] She concludes that "*Quanta* does not appear to undermine the Federal Circuit's decision in *Monsanto Co. v. McFarling* . . . which upheld a finding of patent infringement where a farmer saved and replanted seeds from a harvest that was grown from patented seeds, in violation of an express condition of his licensing agreement."[106] There is a contradiction here in that in *McFarling I* and *II*, the licensee was not in violation of any restriction during sales, but rather the purchaser, or farmer, violated restrictions postsale.[107] *Quanta*

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[102] "The unrestricted sale of a patented article, by or with the authority of the patentee, 'exhausts' the patentee's right to control further sale and use of that article by enforcing the patent under which it was first sold." Fujifilm Corp. v. Benun, No. 05-18632008, U.S. Dist. LEXIS 49719, at *14 (D.N.J. June 30, 2008) (citing Jazz Photo Corp. v. ITC, 264 F.3d 1094, 1105 (2001)) (emphasis omitted).

[103] "The exhaustion doctrine prohibits patent holders from selling a patented article and then invoking patent law to control postsale use of the article." Excelstor Tech., Inc. v. Papst Licensing Gmbh & Co. KG, 2008 U.S. App. LEXIS 19570, at *5 (Fed. Cir. Sept. 16, 2008) (citing *Quanta*, 128 S. Ct. at 2122) (quotations omitted).

[104] Mary LaFrance, *The Supreme Court's Broad Interpretation of Patent Exhaustion in* Quanta Computer, Inc. v. LG Electronics, Inc., LexisNexis Expert Commentary, (Oct. 19, 2008).

[105] *See id.*

[106] *Id.* (citation omitted).

[107] *See* Monsanto Co. v. McFarling, 363 F.3d 1336, 1338–40 (2004); Monsanto Co. v. McFarling, 302 F.3d 1291, 1293 (2002).

stated that "exhaustion turns *only* on [the licensee's] own license to sell products practicing the . . . Patents."[108]

E. *Rights under Patent Law*

Quanta discussed *Bloomer v. McQuewan*[109] and how the 1853 holding still applies today.[110] *McQuewan* held that two different conveyable and severable patent rights exist.[111] These two rights, as applicable to both LG and transgenic seed patentees, are the "make and vend" rights and the "use" rights.[112] The "make and vend" rights are rights that are subject to the limitations of a license.[113] These rights allow a licensee to purchase "a portion of the franchise which the patent confers," but do not allow a licensee to enjoy any rights that are not purchased.[114] *McQuewan* stated that the purchase of an item with the intent of using it is completely different.[115] Under the "use" rights:

> When the machine passes to the hands of the purchaser, it is no longer within the limits of the monopoly. It passes outside of it, and is no longer under the protection of the act of Congress. And if his right to the implement or machine is infringed, he must seek redress in the courts of the State, according to the laws of the State and not in the courts of the United States, nor under the law of Congress granting the patent.[116]

In concluding that the machine is no longer protected by Congress, but instead is protected by the laws of a state, the Court concluded that state contract law, not federal patent law, controls.[117] Typically, the rights the patentee conveys to the manufacturer and

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[108] *Quanta*, 128 S. Ct. at 2122 (emphasis added).

[109] 55 U.S. (1 How.) 539 (1853). *McQuewan* was the first case where the Supreme Court applied the patent exhaustion doctrine. *Id.*

[110] *Quanta*, 128 S. Ct. at 2115.

[111] *McQuewan*, 55 U.S. at 549.

[112] *Id.*

[113] *Id.*

[114] *Id.*

[115] *Id.* ("But the purchaser of the implement or machine for the purpose of using it in the ordinary pursuits of life, stands on different ground.").

[116] *Id.*

[117] *Id.* The Court explicitly returns to the availability of contract law later in the opinion. Quanta Computer, Inc. v. LG Electronics, Inc., 128 S. Ct. 2109, 2122 n.7 (2008).

seller of the patented items would consist of the "make and vend" rights, while the rights conveyed to the purchaser would be the "use" rights. For *Bizcom*, this means that Intel possessed the "make and vend" rights and Quanta purchased the "use" rights.[118] Under *McQuewan*, LG's rights to restrict Quanta's use of the patented items are no longer enforceable under its patent monopoly; instead, LG has to rely upon state law to seek compensation.[119] For the transgenic seed industry, this means the seed companies possess the "make and vend" rights and the farmers possess the "use" rights.[120] As with LG, the transgenic seed patentee's rights will no longer be enforceable under its patent monopoly and the patentee will have to rely upon contract law.[121]

The transgenic seed industry claims that the authority to use an item does not confer the authority to create a new item.[122] As previously discussed, the seed patentee can claim that a purchaser who has the "use" rights is infringing upon a patent by manufacturing a new patented item.[123] However, the Federal Circuit stated that a farmer "plants and grows the first-generation seed in an identical fashion whether he intends to sell the second-generation seed as a commercial crop for consumption or whether he intends to replant it."[124] The seed patentees cannot claim that the farmer has infringed upon their patent when he grows a crop and sells it, yet this is the exact same manufacturing procedure as

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[118] *See* LG Electronics, Inc. v. Bizcom Electronics, Inc., 453 F.3d 1364, 1368 (Fed. Cir. 2006) (stating that Intel is authorized to manufacture and sell the patented items and that the defendants purchased the items for use).

[119] *Quanta,* 128 S. Ct. at 2122 n.7. After holding that LG cannot rely upon patent law due to the exhaustion doctrine, the Court also suggests that LG can seek redress under contract law. *Id.*

[120] Patentees are authorized to manufacture and sell the patented seeds. *See, e.g.,* Monsanto Co. v. McFarling, 302 F.3d 1291, 1293 (Fed. Cir. 2002). The farmers purchase the right to use the patented seeds. *See, e.g., id.*

[121] The transgenic seed industry warns that if patentees cannot rely upon patent law due to the exhaustion doctrine, they will have to rely upon contract law. *See* Seed Brief, *supra* note 10, at 21; Croplife Brief, *supra* note 15, at 12; Biotech Brief, *supra* note 16, at 29.

[122] Seed Brief, *supra* note 10, at 18 (citing Hewlett-Packard v. Repeat-O-Type Stencil Mfg. Co., 123 F.3d 1445, 1451 (Fed. Cir. 1997)).

[123] *See* Bloomer v. McQuewan, 55 U.S. (1 How.) 539, 549 (1852).

[124] Monsanto Co. v. McFarling, 363 F.3d 1336, 1342 (2004).

when he grows a crop for replanting. One way to square the Supreme Court's precedent with allowing the farmer to simultaneously use the seed and make new seed is to hold that the farmer has been given both "use" rights and "make and vend" rights. This is impractical, however, since it would allow the farmer to introduce the patented genetic material into the genetic code of other seeds and share in the monopoly franchise.[125] Another way to allow the farmer to grow a crop would be to hold that "making" new seeds is a part of the "use" right.

Since a farmer cannot use the first generation of seed without making a second generation, incorporating the act of making the second generation into the "use" rights of the first generation seems to be the most plausible rationalization. An analogy can be drawn between this and a method patent claim. *Quanta* holds that when a use is embodied in a product, the right to that particular use is inseparable and transfers with the product.[126] If that use is a patented method, then that patent is instantly exhausted, even though the particular patent was never sold, because the item cannot exist without its embodied use.[127] The use of the first-generation seed is inseparable from the manufacture of second-generation seed to the extent that the manufacture of the second generation is actually embodied in the use of the first.[128] Therefore, the purchase of the first generation exhausts any patent infringement associated with manufacturing the second generation.[129]

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[125] *See McQuewan*, 55 U.S. at 549 (explaining the privileges associated with the "make and vend" rights).

[126] *See* Quanta Computer, Inc. v. LG Electronics, Inc., 128 S. Ct. 2109, 2116–17 (2008) (explaining that an item's only use is embodied within the item and cannot be severed from the item).

[127] *See id.* at 2122 (stating that an embodied method patent is instantly exhausted upon the authorized sale of the item that embodies the method).

[128] *See McFarling II*, 363 F.3d at 1342 (implying that it is impossible to use the first generation of transgenic soybean seed without manufacturing a second generation of seed).

[129] *See Quanta*, 128 S. Ct. at 2122.

F. *Exhaustion Upon Patents Not Sold*

The transgenic seed industry also claims that even if patent exhaustion applies, it only applies to the first-generation seed because the second generation was never purchased.[130] The industry claims that patent exhaustion can only apply to items actually purchased themselves.[131] As discussed above, *Quanta* held that method patents were exhausted even though they were never sold.[132] The Federal Circuit's holding that patent exhaustion only applies to the exact item sold has been reversed.[133]

IV. CONTRACT LAW

The transgenic seed industry and the lower courts imply that if patent exhaustion is not suspended by restrictions, the seed patentees would not be able to enforce their licensing agreements.[134] Uncertainty exists as to whether contract law stands ready to enforce the rights.[135] *Quanta* noted LG needed to pursue a remedy under contract law.[136] The Supreme Court has specifically held that upon sale, a patented item becomes a private and "individual property, not protected by the laws of the United States, but by the laws of the State in which it is situated. Contracts in relation to it are regulated by the laws of the State, and are subject to State jurisdiction."[137] The seed industry argues that

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[130] *See, e.g.,* Monsanto Co. v. Scruggs, 459 F.3d 1328, 1328 (Fed. Cir. 2006), *cert. denied*, 127 U.S. 2062 (2007).

[131] *See, e.g., id.* The "doctrine of exhaustion of the patent right is not implicated, as the new seeds grown from the original batch had never been sold." Monsanto v. McFarling, 302 F.3d 1291, 1298–99 (Fed. Cir. 2002).

[132] *Quanta*, 128 S. Ct. at 2122.

[133] After Quanta, it has been said that a rule of patent exhaustion is that "[t]he authorized sale of single product [sic] may exhaust rights in more than one patent." MATTHEW BENDER & CO., INC., LEXISNEXIS GROUP, 1–2 MILGRIM ON LICENSING § 2.30 (2008).

[134] *See, e.g.,* Seed Brief, *supra* note 10, at 21 n.33.

[135] Reliance upon contract law is discussed in *McQuewan* as the appropriate avenue for post-sale restrictions. Bloomer v. McQuewan, 55 U.S. (1 How) 539, 550 (1852). This is again noted in *Quanta* as well. *Quanta*, 128 S. Ct. at 2122 n.7.

[136] *Quanta*, 128 S. Ct. at 2122 n.7 ("[T]he authorized nature of the sale to Quanta does not necessarily limit LGE's other contract rights.").

[137] Bloomer v. McQuewan, 55 U.S. 539, 549 (1853).

contract law does not afford sufficient protection against the danger that patented seeds will be transferred to third parties without authorization and these third parties will then use the seeds without obtaining a license from the patentee.[138] This argument is without merit since the Supreme Court only referenced contract law when the patent was exhausted.[139] If there is no authorized sale, then patent exhaustion is not triggered and the patentee is still protected from infringement by the third party under patent law. There are a number of other strategies that can be used in conjunction with contract law in order to build stronger protection for the patent holder, such as the Plant Variety Protection Act of 1970 ("PVPA"),[140] price adjusting strategies or trade secrets law,[141] product bundling,[142] and genetic use restriction technologies.[143]

A concern surprisingly not mentioned in the *Quanta* amicus curiae briefs is recent action in state legislatures. Within the last seven years, state legislators in Missouri and Minnesota introduced bills allowing farmers to save their seeds regardless of what the seed patentee and the licensed distributor set forth in contract.[144]

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[138] *See, e.g.,* Croplife Brief, *supra* note 15, at 12.

[139] *Quanta*, 128 S. Ct. 2109, 2122 n.7 (2008).

[140] The Plant Variety Protection Act of 1970 gives up to 25 years monopoly rights for new, distinct, uniform, and stable sexually reproduced or tuber propagated plant varieties. 7 U.S.C. §§ 2321–2582 (1980).

[141] Increasing prices for the first year "may provide seed companies adequate return on investment." A. Bryan Endres & Peter D. Goldsmith, *Alternative Business Strategies in Weak Intellectual Property Environments: A Law and Economics Analysis of the Agro-Biotechnology Firm's Strategic Dilemma*, 14 J. INTELL. PROP. L. 237, 254–68 (2007).

[142] This may run afoul of anti-trust laws but is widely practiced by leading seed corporations. *See* Monsanto Co. v. McFarling, 302 F.3d 1291 (Fed. Cir. 2002), *cert. denied*, 537 U.S. 1232 (2003).

[143] It is possible to make transgenic seeds that yield infertile crops. An infertile crop is unable to generate a seed that can grow into a new crop, thus eliminating the desire to save seed for replanting. Endres & Goldsmith, *supra* note 141, at 268.

[144] Moeller, *supra* note 17, at 4. The 2003 Minnesota bill allowed for farmers that traditionally saved their seed, such as soybean farmers, to continue saving their seed as long as the seed patentee was compensated. *Id.* Normally when a farmer buys seed, the seed price gets severed into two separate parcels: one portion of the price goes to the licensed seed company that grew the seed containing the patented genetic material, and the other portion of the price goes

Legislators in Indiana enacted legislation in 2003 that modified seed contracts in four ways: (1) "the law mandates that any disputes under the contracts will be governed by Indiana law, and any contract clauses that attempt to make disputes subject to another jurisdiction's laws will not be enforceable;"[145] (2) any forum selection clause must be conspicuous and written near the farmer's signature;[146] (3) "the law allows communications about the terms of a seed contract between the farmer, and family members, attorneys, or business advisors, even if the seed contract contains a confidentiality provision forbidding such communications;"[147] and (4) "the law provides that farmers will not be liable for breach of a seed contract where a very small or unintentional presence of a product . . . is found in the farmer's possession."[148] This legislation could raise concerns about how much faith seed patentees can place in State governments for their protection. In tough economic times it could take only one agricultural state to undermine the entire seed industry.[149] Under

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to the seed patentee that owns the patent on the genetic material. *See* Monsanto Co. v. McFarling, 363 F.3d 1336, 1339 (Fed. Cir. 2004). The Minnesota bill seems advantageous to both the farmer and the seed patentee. The farmer only has to pay one portion of the usual seed price (the portion to the patentee and not to the company that grows the seed) and can save his extra seed instead of having to buy new seed each year from the seed growing company. The seed patentee is not only still receiving its compensation, but the reduced cost to the farmer could mean that additional farmers could now afford the technology and the seed patentee could receive increased business. However, in *McFarling II*, the Court noted that the seed patentee Monsanto also owned twenty percent of the market of seed growers that distribute the Monsanto seed. Any loss of profits for the seed growers would also negatively affect the seed patentee Monsanto. The price of seed in *McFarling II* was $22.50 for a 50-pound bag ($16.00 for the seed and an additional $6.50 for the technology fee). *Id.* Under the Minnesota law, Monsanto would continue to receive $6.50 per bag, but would lose out on its share of the $16.00 per bag.

[145] Moeller, *supra* note 17, at 4.

[146] *Id.*

[147] *Id.*

[148] *Id.*

[149] If a state that had numerous farmers going bankrupt were to pass a law allowing the farmers to save their seed and replant it free of charge, then the contract law that the seed patentees had relied upon would be non-existent in that state. Unlike federal legislators, who cannot pass bills without support from

the current sales model for the transgenic seed industry, contract law is now the only remaining post-sale remedy and, given the legislative ability to chip away at contracts, that remedy may not be sufficient.

V. CONCLUSION

Since 1853, the Supreme Court has held that any authorized sale may trigger patent exhaustion.[150] The only case to hold that a post-sale restriction may be enforced under patent law[151] was explicitly overruled in 1917,[152] yet the lower courts have continuously held to the contrary.[153] The lower courts have erroneously interpreted the patent exhaustion doctrine to be triggered solely upon unrestricted sales. The transgenic seed industry relied upon the lower court's precedent, as did the computer industry.

In reversing *Bizcom, Quanta* signaled that the patent exhaustion doctrine still has teeth and industries cannot rely on patent law to enforce authorized post-sale restrictions. With the transgenic seed industry's sales models unchanged, the lack of patent law protection for post-sale restriction leaves the seed industry relying upon state contract law. Although contract law is still a viable option for the seed industry, it is evident from state legislation, such as the 2003 legislation in Indiana, that contract law is not as stable as patent law. The transgenic seed industry should either adapt to rely upon contract law, develop a way to restructure their sales model to receive the protection of another

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other federal legislators from different states, state legislators only work within the realm of their own state. It is plausible that if the farmers in state "A" were going bankrupt and having to pay high fees to a mega seed-company in state "B", the state "A" legislators would draft a bill to redress the financial complaints of state "A's" farmers.

[150] Bloomer v. McQuewan, 55 U.S. (1 How.) 539 (1853).

[151] Henry v. A. B. Dick Co., 224 U.S. 1 (1912).

[152] Motion Picture Patents Co. v. Universal Film Mfg. Co., 243 U.S. 502 (1917).

[153] Fujifilm Corp. v. Benun, 2008 U.S. Dist. LEXIS 49719 (D.N.J. June 30, 2008).

law,[154] or work out a system where royalties can be combined with credits for other products tied to the seed purchase to enforce single-season use and other contractual obligations.[155] There is also hope that these issues with patent exhaustion might be addressed by the incoming 111th Congress.[156]

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[154] Other suggestions have also been proposed such as trade secrets or the PVPA. The Cato Supreme Court Review suggests that "parties interested in contracting for a limited patent license may have to first initiate litigation and then strike deals labeled as settlement agreements instead of patent licenses, in the hopes of having courts see their contracts more as matters of state contract law and general federal policy in favor of settling litigation rather than matters of federal patent policy as potentially controlled by Quanta." F. Scott Kieff, Quanta v. LG Electronics: *Frustrating Patent Deals by Taking Contracting Options off of the Table?*, 2007–08 CATO SUP. CT. REV. 315, 322 (2008). This journal is misreading the holding in *Quanta* as "render[ing] void any contract." *Id.* at 316.

[155] Usually seed contracts include clauses that restrict farmers to only using pesticides or other products manufactured by the seed patentee. *See* Monsanto Co. v. McFarling, 302 F.3d 1291, 1297–99 (Fed. Cir. 2002). If a farmer could certify that he did not violate any seed-saving provisions, the seed patentee could offer credits toward purchasing the required pesticides and other materials the farmer may be contractually obligated to purchase through the seed patentee. The initial prices of the pesticides and other materials would have to be raised significantly to induce the desire to obtain these credits.

[156] Harold C. Wegner, *Post-Quanta, Post-Sale Patentee Controls*, 7 J. MARSHALL REV. INTELL. PROP. L. 682, 700 (2008) ("With the demise of much needed macroscopic statutory patent reform in the current 110th Congress, it is inevitable that some form of patent reform legislation will be reintroduced in 2009 in the Congress in the coming 111th Congress.").